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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,080	02/04/2002	Manish Mangal	1844	4074

7590 05/21/2003
Steven J. Funk
Sprint Corporation
8140 Ward Parkway
Kansas City, MO 64114

EXAMINER

MOORE, JAMES K

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Dr

Office Action Summary

Application No.

10/067,080

Applicant(s)

MANGAL ET AL.

Examiner

James K Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 6 contains a spelling error. In box 122 of Figure 6, "SORKS" should be changed to "WORKS". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
on page 10, in line 27, reference number 38 should be changed to 44;
on page 11, in line 19, reference number 26 should be changed to 14;
on page 11, in line 22, reference number 46 should be changed to 56;
on page 11, in lines 22-23, "and a user interface 56" should be deleted; and
on page 18, in line 30, "an" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3, 4, 11, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the base station" in line 18. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 depends on claim 3.

Claim 11 recites the limitation "the base station" in line 26. There is insufficient antecedent basis for this limitation in the claim.

Claims 12 depends on claim 11.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States;

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2, 7-10, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Willey (U.S. Patent No. 6,041,241).

Regarding claim 1, Willey discloses a method of reducing call-setup latency at a mobile station. The method comprises receiving a request to change a mode of operation of the mobile station from a first mode (current slot cycle index mode) to a second mode (new slot cycle index mode), and responsive to the request, the mobile station switching from operation at a first paging slot cycle index to operation at a second paging slot cycle index. See Abstract, and col. 4, line 38 through col. 5, line 30.

Regarding claim 2, Willey discloses all of the limitations of claim 1, and also discloses that the first slot cycle index may be slot cycle index 2, and that the second slot cycle index may be slot cycle index 0 (e.g., if the mobile station is coupled to an external power source). See col. 3, line 57 through col. 4, line 21.

Regarding claim 7, Willey discloses all of the limitations of claim 1, and also discloses that the request may comprise a request to switch from operation at slot cycle index 2 to operation at slot cycle index 0. See col. 3, line 57 through col. 4, line 21.

Regarding claim 8, Willey discloses all of the limitations of claim 1, and also discloses that the request may comprise a request to switch from a current paging frequency (e.g., slot cycle index 2) to a higher paging frequency (e.g., slot cycle index 0). See col. 3, line 57 through col. 4, line 21.

Regarding claim 9, Willey discloses a mobile station (100). The mobile station comprises a processor (105), data storage (106), and inherent machine language instructions stored in the data storage and executable by the processor to receive a user request to switch the mobile station from a first mode of operation (current slot cycle index) to a second mode of operation (new slot cycle index), and to responsively

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switch the mobile station from operation at a first paging frequency to operation at a second paging frequency. See Abstract, and col. 4, line 38 through col. 5, line 30.

Regarding claim 10, Willey discloses all of the limitations of claim 9, and also discloses that switching the mobile station from operation at a first paging frequency to operation at a second paging frequency may comprise switching the mobile station from operation at slot cycle index 2 to operation at slot cycle index 0 (e.g., if the mobile station is coupled to an external power source). See col. 3, line 57 through col. 4, line 21.

Regarding claim 15, Willey discloses all of the limitations of claim 9, and also discloses that the user request may comprise a request to switch from operation at slot cycle index 2 to operation at slot cycle index 0. See col. 3, line 57 through col. 4, line 21.

Regarding claim 16, Willey discloses all of the limitations of claim 15, and also discloses that the user request may comprise a request to switch from a current paging frequency (e.g., slot cycle index 2) to a higher paging frequency (e.g., slot cycle index 0). See col. 3, line 57 through col. 4, line 21.

Regarding claim 17, Willey discloses a method comprising selectively switching a subset (e.g., mobile station 100) of a plurality of mobile stations to operate at a higher paging frequency than others, so as to reduce setup time for establishing radio link connectivity with the mobile stations of the subset. See col. 3, line 57 through col. 4, line 21.

7. Claims 1, 5, 6, 8, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Harris et al. (U.S. Patent Application Publication No. US 2002/0191583).

Regarding claim 1, Harris discloses a method of reducing call-setup latency at a mobile station. The method comprises receiving a request to change a mode of operation (dispatch mode or normal interconnect mode), and responsive to the request, the mobile station switching from operation at a first paging slot cycle index to operation at a second paging slot cycle index. See paragraphs 30 and 31.

Regarding claim 5, Harris discloses all of the limitations of claim 1, and also discloses that the request comprises a request to switch from a normal mode to a push-to-talk mode (dispatch mode). See paragraphs 4, 30, and 31.

Regarding claim 6, Harris discloses all of the limitations of claim 1, and also discloses that the request comprises a request to switch from a normal-paging mode (normal interconnect mode) to a fast-paging mode (dispatch mode). See paragraph 30 and 31.

Regarding claim 8, Harris discloses all of the limitations of claim 1, and also discloses that the request comprises a request to switch from a current paging frequency to a higher paging frequency. See paragraphs 30 and 31.

Regarding claim 17, Harris discloses a method comprising selectively switching a subset (e.g., mobile stations operating in a dispatch mode) of a plurality of mobile stations to operate at a higher paging frequency than others, so as to reduce setup time for establishing radio link connectivity with the mobile stations of the subset. See paragraphs 30 and 31.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3, 4, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willey in view of well known prior art.

Regarding claim 3, Willey discloses all of the limitations of claim 1, and also discloses that the method comprises, responsive to the request, the mobile station sending a signaling message via an air interface to the network infrastructure, directing the network infrastructure to operate at the second paging slot cycle index as well, and that both a base station and the mobile station then operate at the second paging slot cycle index. See col. 1, lines 37-45 and col. 5, lines 17-30. Willey does not disclose that the signaling message is sent to a base station controller, directing the base station controller to switch to operating at the second paging slot cycle index. However, it is well known in the art that a base station controller is a conventional node in a mobile network infrastructure which controls the paging operations of base stations. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Willey, such that the signaling message is sent to a base station controller, directing the

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base station controller to switch to operating at the second paging slot cycle index, in order to control the timing of the base station paging transmissions.

Regarding claim 4, Willey in view of well known prior art teaches all of the limitations of claim 3, and Willey also discloses that the first slot cycle index may be slot cycle index 2, and that the second slot cycle index may be slot cycle index 0 (e.g., if the mobile station is coupled to an external power source). See col. 3, line 57 through col. 4, line 21.

Regarding claim 11, Willey discloses all of the limitations of claim 9, and also discloses that the machine language instructions, responsive to the user request, send a signaling message via an air interface to the network infrastructure, directing the network infrastructure to switch to operation at the second paging frequency as well, and that both a base station and the mobile station then operate at the second paging frequency. See col. 1, lines 37-45 and col. 5, lines 17-30. Willey does not disclose that the signaling message is sent to a base station controller, directing the base station controller to switch to operation at the second paging frequency. However, it is well known in the art that a base station controller is a conventional node in a mobile network infrastructure which controls the paging operations of base stations. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Willey, the signaling message is sent to a base station controller, directing the base station controller to switch to operation at the second paging frequency, in order to control the timing of the base station paging transmissions.

Regarding claim 12, Willey in view of well known prior art teaches all of the limitations of claim 11, and Willey also discloses that the operation at the first paging frequency may comprise operation at slot cycle index 2, and that operation at the second paging frequency may comprise operation at slot cycle index 0 (e.g., if the mobile station is coupled to an external power source). See col. 3, line 57 through col. 4, line 21.

10. Claims 9, 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. in view of well known prior art.

Regarding claim 9, Harris discloses a mobile station (600) comprising logic circuitry (602) that receives an inherent user request to switch the mobile station from a first mode of operation to a second mode of operation, and responsively switches the mobile station from operation at a first paging frequency to operation at a second paging frequency. See paragraphs 30 and 31. Harris does not disclose that the logic circuitry is implemented with a processor, data storage, and machine language instructions stored in the data storage and executable by the processor to perform the functions of the logic circuitry. However, such an implementation of logic circuitry is well known and widely used in the art due to the decreasing size and increasing speed of processors. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Harris, such that the logic circuitry is implemented with a processor, data storage, and machine language instructions stored in the data storage and

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executable by the processor to perform the functions of the logic circuitry, in order to reduce the size of the mobile station and to allow it to function at high speeds.

Regarding claim 13, Harris in view of well known prior art teaches all of the limitations of claim 9, and Harris also discloses that the user request comprises a request to switch the mobile station from a normal mode to a push-to-talk mode (dispatch mode). See paragraphs 30 and 31.

Regarding claim 14, Harris in view of well known prior art teaches all of the limitations of claim 9, and Harris also discloses that the user request comprises a request to switch from a normal-paging mode to a fast-paging mode (dispatch mode). See paragraphs 30 and 31.

Regarding claim 16, Harris in view of well known prior art teaches all of the limitations of claim 9, and Harris also discloses that the user request comprises a request to switch from a current paging frequency to a higher paging frequency. See paragraphs 30 and 31.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken Moore, whose telephone number is (703) 308-6042. The examiner can normally be reached on Monday-Friday from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost, can be reached at (703) 305-4778.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ken Moore

5/14/03

JKM


PATENT EXAMINER